
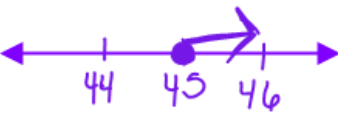




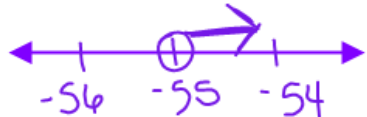

## Balancing Inequalities w/ Multiplication/Division (3-5)

When you multiply or divide each side of an inequality by a negative number, you must always flip the inequality symbol.

**Example 1:** Solve the inequality. Then, graph.

| I Do                                                                                                                                               | You Do                                                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| $\frac{x}{2} < 20$ $\frac{x}{2} \cdot \frac{-2}{-2}$ $x > -10$  | $\frac{y}{3} \geq 15 \cdot 3$ $y \geq 45$  |

| I Do                                                                                                                                | You Do                                                                                                                              |
|-------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| $\frac{-12}{6} > \frac{6x}{6}$ $-2 > x$ $x < -2$  | $\frac{-8x}{-8} \leq \frac{24}{-8}$ $x \geq -3$  |

| I Do                                                                                                                                | You Do                                                                                                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| $-5 \cdot \frac{y}{5} < 11 \cdot -5$ $y > -55$  | $\frac{-32}{+12} \leq \frac{x-12}{+12}$ $-20 \leq x$ $x \geq -20$  |